



CIVIL-TECH CONSULTANTS AND ENGINEERS

Building & Highway Material Testing Laboratory

NABL - Accredited Laboratory as per ISO / IEC-17025 :2005



Job No.: CTCE/BBMP/W.No.09/BBU/CSR-06/064f/CEMENT/2016-17



Date: 15.06.2016

TEST REPORT ON CEMENT

* CUSTOMER	: Asst. Executive Engineer, Vidyaranyapura Sub Division, BBMP, Bangalore.
* AGENCY	: Mr. B. B. Umesh, #385/1, Near Anjaneya Temple, Bettahalasur Village & Post, Bangalore - 57.
* NAME OF THE WORK	: Improvements and Asphalting to roads at Canara Bank Layout in Ward No.09 in Vidyaranyapura Sub Division, BBMP, Bangalore.
* REFERENCE	: AEE/BBMP/VSD/PR/275/2016-17 Dated: 13.06.2016
SAMPLE ID	: Cement
SAMPLE RECEIVED ON	: 13.06.2016
PERIOD OF TESTING	: 13.06.2016 to 15.06.2016

The results of the tests conducted on the cement sample are as follows:

Sl. No	Descriptions	Test Method as per IS	Test Result	Requirements as per IS: 8112-2013
1	Standard Consistency	IS-4031 (Part -4) 1988(RA-2009)	29.00 %	-
2	a) Initial Setting Time	IS-4031 (Part -5) 1988(RA-2009)	140 Minutes	Not Less than 30 Minutes
	b) Final Setting Time	IS-4031 (Part -5) 1988(RA-2009)	480 Minutes	Not More than 600 Minutes
3	Soundness by Le Chartier Method	IS-4031 (Part-3) 1988(RA-2009)	1 mm	Not more than 10mm

*Information is furnished by the Customer/Representative.

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Job No.: CTCE/BBMP/W.No.09/BBU/CSR-06/064f/SAND-Gradation/2016-17

: 15.06.2016

TEST REPORT ON DETERMINATION GRADATION OF FINE AGGREGATES

* Customer : Asst. Executive Engineer, Vidyananyapura Sub Division, BBMP, Bangalore.

* Agency : Mr. B. B. Umesh,
#385/1, Near Anjaneya Temple, Bettahalasur Village & Post, Bangalore - 57.

* Name of Work : Improvements and Asphaltting to roads at Canara Bank Layout in Ward No.09
in Vidyananyapura Sub Division, BBMP, Bangalore.

Reference : AEE/BBMP/VSD/PR/275/2016-17 Dated: 13.06.2016

Technical Reference : IS : 2386 Part 1 - 1963 RA-2007

Sample ID : Fine Aggregates

Sample Received on : 13.06.2016

Date of Testing : 15.06.2016

Total Wt. of Aggregates in gms 1000



Is Sieve Size in mm	Cumulative Weight Passing in %	Specific Limits as per IS 383-1970 (RA- 2007)			
		Zone-I	Zone-II	Zone-III	Zone-IV
10	100	100	100	100	100
4.75	95.80	90-100	90-100	90-100	95-100
2.36	77.60	60-95	75-100	85-100	95-100
1.18	56.80	30-70	55-90	75-100	90-100
600 Micron	27.80	15-34	35-59	60-79	80-100
300 Micron	13.80	5-20	8-30	12-40	15-50
150 Micron	5.80	0-10	0-10	0-10	0-15

* Information is furnished by the Customer/Representative

Remarks : This sample is under Zone-I specific limits.

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Job No.: CTCE/BBMP/W.No.09/BBU/CSR-06/064f/AGG/GR/2016-17

: 15.06.2016

TEST REPORT ON DETERMINATION GRADATION OF COARSE AGGREGATES

* Customer : Asst. Executive Engineer, Vidyaranyapura Sub Division, BBMP, Bangalore.

* Agency : Mr. B. B. Umesh,
#385/1, Near Anjaneya Temple, Bettahalasur Village & Post, Bangalore - 57.

* Name of Work : Improvements and Asphaltting to roads at Canara Bank Layout in Ward No.09
in Vidyaranyapura Sub Division, BBMP, Bangalore.

Reference : AEE/BBMP/VSD/PR/275/2016-17 Dated: 13.06.2016

Technical Reference : IS : 2386 Part 1 -1963 RA-2007

Sample ID : Coarse Aggregates (40mm)

Sample Received on : 13.06.2016

Date of Testing : 15.06.2016

Total Wt. of Aggregates in gms= 7000

Sieve Size in mm	Cumulative Weight Passing in %	Specific Limits as per IS 383-1970 (RA- 2007)	
		Graded	Single Sized
80	100	100	-
63	100	-	100
40	98.21	95-100	85-100
20	37.50	30-70	0-20
10	17.50	10-35	0-5
4.75	3.21	0-5	-

* Information is furnished by the Customer/Representative

Remarks : This sample is under Graded specific limits.

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Job No.: CTCE/BBMP/W.No.09/BBU/CSR-06/064f/CC Solid Block/2016-17

: 18.06.2016

TEST REPORT ON SOLID CONCRETE BLOCKS

* Customer : Asst. Executive Engineer, Vidyaranyapura Sub Division, BBMP, Bangalore.

* Agency : Mr. B. B. Umesh,
#385/1, Near Anjaneya Temple, Bettahalasur Village & Post, Bangalore - 57.

* Name of the Work : Improvements and Asphaltting to roads at Canara Bank Layout in Ward No.09 in Vidyaranyapura Sub Division, BBMP, Bangalore.

Reference : AEE/BBMP/VSD/PR/275/2016-17 Dated: 13.06.2016

Sample Received on : 13.06.2016

Date of Testing : 18.06.2016

Size of Blocks : 400mm x 200mm x 200mm

Cross Sectional Area : 80000 mm²

Technical Reference : IS: 2185 (Part 1) - 2005

No. of Blocks Tested : 08



Sl. No.	Block ID	Wt. in Kg	Failure load (KN)	Compressive strength (N/mm ²)	Requirement as per IS 2185 (Part 1) - 2005
1	Block 1	34.56	258.3	3.23	Minimum required Compressive Strength of Individual Units 3.20 N/mm ²
2	Block 2	34.16	259.3	3.24	
3	Block 3	35.15	260.3	3.25	
4	Block 4	36.25	261.4	3.27	
5	Block 5	34.25	258.4	3.23	
6	Block 6	35.16	259.6	3.25	
7	Block 7	35.18	260.4	3.26	
8	Block 8	34.12	261.3	3.27	

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Job No.: CTCE/BBMP/W.No.09/BBU/CSR-06/064f/CUBE/2016-17

25.07.2016

TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

- * Customer : Asst. Executive Engineer, Vidyaranyapura Sub Division, BBMP, Bangalore.
- * Agency : Mr. B. B. Umesh,
#385/1, Near Anjaneya Temple, Bettahalasur Village & Post, Bangalore – 57.
- * Name of the work : Improvements and Asphalting to roads at Canara Bank Layout in Ward No.09 in Vidyaranyapura Sub Division, BBMP, Bangalore.
- * Reference : AEE/BBMP/VSD/PR/275/2016-17 Dated: 13.06.2016
- * Sample ID : Cement Concrete
- Size of cubes : 150mmx150mmx150mm
- Cross Sectional Area : 22500 mm²
- Technical Reference : IS: 516-1959 (Reaffirmed 2008)
- * Grade of Concrete : M₁₅
- Compressive Strength as on : 28th day
- Sample Received on : 25.07.2016



SL.No.	* Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm ²)
1	27.06.2016	25.07.2016	8.135	360.8	16.04
2	27.06.2016	25.07.2016	8.265	372.3	16.55
3	27.06.2016	25.07.2016	8.352	385.3	17.12

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Job No.: CTCE/BBMP/W.No.09/BBU/CSR-06/064f/CUBE/2016-17

27.07.2016

TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

* Customer : Asst. Executive Engineer, Vidyaranyapura Sub Division, BBMP, Bangalore.

* Agency : Mr. B. B. Umesh,
#385/1, Near Anjaneya Temple, Bettahalasur Village & Post, Bangalore – 57.

* Name of the work : Improvements and Asphaltting to roads at Canara Bank Layout in Ward No.09 in Vidyaranyapura Sub Division, BBMP, Bangalore.

* Reference : AEE/BBMP/VSD/PR/275/2016-17 Dated: 13.06.2016

* Sample ID : Cement Concrete

Size of cubes : 150mmx150mmx150mm

Cross Sectional Area : 22500 mm²

Technical Reference : IS: 516-1959 (Reaffirmed 2008)

* Grade of Concrete : M₂₀

Compressive Strength as on : 28th day

Sample Received on : 27.07.2016



Sl.No.	* Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm ²)
1	29.06.2016	27.07.2016	8.198	482.3	21.44
2	29.06.2016	27.07.2016	8.235	493.5	21.93
3	29.06.2016	27.07.2016	8.315	516.3	22.95

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29.07.2016

TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

* Customer : Asst. Executive Engineer, Vidyaranyapura Sub Division, BBMP, Bangalore.

* Agency : Mr. B. B. Umesh,
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* Name of the work : Improvements and Asphaltting to roads at Canara Bank Layout in Ward No.09 in Vidyaranyapura Sub Division, BBMP, Bangalore.

* Reference : AEE/BBMP/VSD/PR/275/2016-17 Dated: 13.06.2016

* Sample ID : Cement Concrete

Size of cubes : 150mmx150mmx150mm

Cross Sectional Area : 22500 mm²

Technical Reference : IS: 516-1959 (Reaffirmed 2008)

* Grade of Concrete : M₂₀

Compressive Strength as on : 28th day

Sample Received on : 29.07.2016



S.No.	Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm ²)
1	01.07.2016	29.07.2016	8.120	479.3	21.30
2	01.07.2016	29.07.2016	8.226	510.2	22.68
3	01.07.2016	29.07.2016	8.321	512.3	22.77

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Job No.: CTCE/BBMP/W.No.09/BBU/STEEL/2016-17

27.06.2016

TEST REPORT ON REINFORCEMENT STEEL

Customer : **Asst. Executive Engineer**, Vidyaranyapura Sub Division, BBMP, Bangalore.

Agency : **Mr. B. B. Umesh**,
#385/1, Near Anjaneya Temple, Bettahalsur Village & Post, Bangalore - 57.

Name of the Work : Improvements and Asphaltting to roads at Canara Bank Layout in Ward No.09 in Vidyaranyapura Sub Division, BBMP, Bangalore.

Reference : AEE/BBMP/VSD/PR/275/2016-17 Dated: 13.06.2016

Date of Test : 27.06.2016

Technical Reference : IS: 1786-2008



Sl. No	Nominal size (dia) (mm)	Mass per metre (Kg/mtr)	TENSILE STRENGTH			Bend Test	Rebend Test
			0.20% proof stress/Yield stress N/mm ²	Tensile strength (Ultimate stress) N/mm ²	Elongation percent gauge length		
1	10	0.62	513	556	13.20	O.K	O.K

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27.06.2016

TEST REPORT ON REINFORCEMENT STEEL

Customer : Asst. Executive Engineer, Vidyanarayapura Sub Division, BBMP, Bangalore.

Agency : Mr. B. B. Umesh,
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Reference : AEE/BBMP/VSD/PR/275/2016-17 Dated: 13.06.2016

Date of Test : 27.06.2016

Technical Reference : IS: 1786-2008



	Nominal size (dia) (mm)	Mass per metre (Kg/mtr)	TENSILE STRENGTH			Bend Test	Rebend Test
			0.20% proof stress/Yield stress N/mm ²	Tensile strength (Ultimate stress) N/mm ²	Elongation percent gauge length		
1	12	0.89	515	558	13.35	O.K	O.K

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Job No.: CTCE/BBMP/W.No.09/BBU/WMM/Gradation/2016-17



: 11.07.2016

GRADATION FOR WMM MORTH TABLE-400-11

Customer : Asst. Executive Engineer, Vidyaranyapura Sub Division, BBMP, Bangalore.

Agency : Mr. B. B. Umesh,
#385/1, Near Anjaneya Temple, Bettahalasur Village & Post, Bangalore – 57.

Name of Work : Improvements and Asphaltting to roads at Canara Bank Layout in Ward No.09 in Vidyaranyapura Sub Division, BBMP, Bangalore.

Reference : AEE/BBMP/VSD/PR/275/2016-17 Dated: 13.06.2016

Date of Testing : 11.07.2016

Material : WMM

Sample Location : WMM Mix Plant

Oven Dry Wt (gm): 7715

Is Sieve Size in mm	Weight Retained (gm)	Cumulative Weight Retained (gm)	Cumulative % of Retained	Cumulative % of Passing	Spec.Limits
53	0	0	0	100	100
45	220	220	2.9	97.1	95-100
22.4	2510	2730	35.4	64.6	60-80
11.2	1095	3825	49.6	50.4	40-60
4.75	1010	4835	62.7	37.3	25-40
2.36	985	5820	75.4	24.6	15-30
0.600	790	6610	85.7	14.3	8-22
0.075	820	7430	96.3	3.7	0-8

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Assistant Executive Engineer
Vidyaranyapura Sub Division
BBMP, Bangalore - 97

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Job No.: CTCE/BBMP/W.No.09/BBU/WMM/AIV/2016-17

11.07.2016



Aggregate Impact Value

IS: 2386 Part IV

Client	Asst. Executive Engineer, Vidyaranyapura Sub Division, BBMP, Bangalore.
Agency	Mr. B. B. Umesh, #385/1, Near Anjaneya Temple, Bettahalasur Village & Post, Bangalore – 57.
Name of the Work	Improvements and Asphaltting to roads at Canara Bank Layout in Ward No.09 in Vidyaranyapura Sub Division, BBMP, Bangalore.
Reference	AEE/BBMP/VSD/PR/275/2016-17 Dated: 13.06.2016
Source / Location	WMM Plant
Type of Mix	Wet Mix macadam
Date of Testing	11.07.2016

Sl No.	Details	Trial No.		Average
		1	2	
1	Total weight of aggregate sample filling the cylindrical measure = W_1 g	392	395	22.91
2	Weight of aggregate passing 2.36 mm sieve after the test = W_2 g	92	93	
3	Weight of aggregate retained 2.36 mm sieve after the test = W_3 g	300	302	
4	Aggregate Impact value = percent fines	23.47	23.54	
	$100 * (W_2/W_1)\%$			22.91

Comments:

→ Maximum allowable Aggregate Impact value for Wet mix Macadam is 30%

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OR
Assistant Executive Engineer
Vidyaranyapura Sub Division,
BBMP, Bangalore - 97

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Job No.: CTCE/BBMP/W.No.09/BBU/WMM/S-T/2016-17

11.07.2016

DETERMINATION OF FLAKINESS INDEX & ELONGATION INDEX OF COARSE AGGREGATES

Client	Asst. Executive Engineer, Vidyaranyapura Sub Division, BBMP, Bangalore.
Agency	Mr. B. B. Umesh, #385/1, Near Anjaneya Temple, Bettahalasur Village & Post, Bangalore – 57.
Name of Work	Improvements and Asphaltting to roads at Canara Bank Layout in Ward No.09 in Vidyaranyapura Sub Division, BBMP, Bangalore.
Reference	AEE/BBMP/VSD/PR/275/2016-17 Dated: 13.06.2016
Technical Reference	IS 2386(Part 1) 1963 (RA 2011)
Type of Mix	Wet Mix Macadam
Date of Testing	11.07.2016



Result : Flakiness Index = 12.12%

Elongation Index = 13.25%

Result : Combined Flakiness & Elongation index 25.37%

Comments:

Maximum allowable Flakiness & Elongation Index for Wet Mix Macadam is 30%

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Handwritten signature
Assistant Executive Engineer
Vidyaranyapura Sub Division
BBMP, Bangalore - 97

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M/s. Civil-Tech Consultants & Engineers

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Job No.: CTCE/BBMP/W.No.09/BBU/BM/Bitumen/2016-17

19.07.2016

BITUMEN CONTENT DETERMINATION OF BITUMINOUS MACADAM MIX

AS per IRC:SP:-11- 1984

CUSTOMER	Asst. Executive Engineer, Vidyananyapura Sub Division, BBMP, Bangalore.
AGENCY	Mr. B. B. Umesh, #385/1, Near Anjaneya Temple, Bettahalasur Village & Post, Bangalore – 57.
NAME OF THE WORK	Improvements and Asphaltting to roads at Canara Bank Layout in Ward No.09 in Vidyananyapura Sub Division, BBMP, Bangalore.
REFERENCE	AEE/BBMP/VSD/PR/275/2016-17 Dated: 13.06.2016
SAMPLE I/D	Roads in canara Bank layout, ward No.09.
DATE OF TESTING	19.07.2016



BITUMEN CONTENT DETERMINATION

Description	Trail 1	Trail 2
1. Weight of Mixture before Test, g	500	500
2. Weight of Mixture after Test, g	482	482
3. Weight of Asphalt and Mineral matter Extracted, g	-	-
4. Weight of Mineral Matter, g	-	-
5. Weight of Ash, g		
6. Weight of Bitumen Extracted, g. (corrected)	18	18.00
7. Bitumen content in %	3.60	3.60
8. Average	3.60	

Note:

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Handwritten signature: AEE
Assistant Executive Engineer
Vidyananyapura Sub Division
BBMP, Bangalore - 97

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Job No.: CTCE/BBMP/W.No.09/BBU/BM/Bitumen/2016-17

19.07.2016

GRADATION DETERMINATION OF BITUMINOUS MACADAM MIX

As per IS2386 and IRC:SP:11-1984

CUSTOMER	Asst. Executive Engineer, Vidyanarayana Sub Division, BBMP, Bangalore.
AGENCY	Mr. B. B. Umesh, #385/1, Near Anjaneya Temple, Bettahalasur Village & Post, Bangalore - 57.
NAME OF THE WORK	Improvements and Asphaltting to roads at Canara Bank Layout in Ward No.09 in Vidyanarayana Sub Division, BBMP, Bangalore.
REFERENCE	AEE/BBMP/VSD/PR/275/2016-17 Dated: 13.06.2016
SAMPLE I/D	Roads in canara Bank layout, ward No.09.
DATE OF TESTING	19.07.2016



GRADATION AFTER EXTRACTION

Sieve Size in mm	Trail 1				Specified Limits as per MORTH specification table 500-04 (Grading-2)
	Weight Retained, gm	% Retained	%Cummulative Retained	% Passing	
26.5	0	0	0	100	100
19	32.25	6.69	6.69	93.31	90-100
13.2	92.35	19.16	25.85	74.15	56-88
4.75	268.5	55.71	81.56	18.44	16-36
2.36	42.15	8.74	90.30	9.70	4-19
0.3	25.26	5.24	95.54	4.46	2-10
0.075	3.69	0.77	96.31	3.69	0-8

The results indicated above are based on the tests carried	Trail 2				Specified Limits as per MORTH specification table 500-04 (Grading-2)
	Weight Retained, gm	% Retained	%Cummulative Retained	% Passing	
26.5	0	0	0	100	100
19	31.22	6.48	6.48	93.52	90-100
13.2	73.15	15.18	21.65	78.35	56-88
4.75	252.6	52.41	74.06	25.94	16-36
2.36	45.25	9.39	83.45	16.55	4-19
0.3	36.36	7.54	90.99	9.01	2-10
0.075	14.25	2.96	93.95	6.05	0-8

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Job No: CTCE/BBMP/W.No.09/BBU/BC/Bitumen/2016-17

22.07.2016

BITUMEN CONTENT DETERMINATION OF BITUMINOUS CONCRETE MIX

As per IRC:SP:11-1984

CUSTOMER	Asst. Executive Engineer, Vidyaranyapura Sub Division, BBMP, Bangalore.
AGENCY	Mr. B. B. Umesh, #385/1, Near Anjaneya Temple, Bettahalsur Village & Post, Bangalore - 57.
NAME OF THE WORK	Improvements and Asphaltting to roads at Canara Bank Layout in Ward No.09 in Vidyaranyapura Sub Division, BBMP, Bangalore.
REFERENCE	AEE/BBMP/VSD/PR/275/2016-17 Dated: 13.06.2016
SAMPLE I/D	Roads in Canara Bank Layout in Ward No.09
DATE OF TESTING	22.07.2016



BITUMEN CONTENT DETERMINATION

Description	Trail 1	Trail 2
1. Weight of Mixture before Test, g	500	500
2. Weight of Mixture after Test, g	474	473.5
3. Weight of Asphalt and Mineral matter Extracted, g	-	-
4. Weight of Mineral Matter, g.	-	-
5. Weight of Ash, g		
6. Weight of Bitumen Extracted, g. (corrected)	26	26.50
7. Bitumen content in %	5.20	5.30
8. Average	5.25	

Note:

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Job No: CTCE/BBMP/W.No.09/BBU/BC/Bitumen/2016-17

22.07.2016

BITUMEN CONTENT AFTER GRADATION DETERMINATION OF BITUMINOUS CONCRETE MIX

As Per IS 2386 and IRC:SP:11-1984

CUSTOMER	Asst. Executive Engineer, Vidyananyapura Sub Division, BBMP, Bangalore.
AGENCY	Mr. B. B. Umesh, #385/1, Near Anjaneya Temple, Bettahalsur Village & Post, Bangalore - 57.
NAME OF THE WORK	Improvements and Asphalting to roads at Canara Bank Layout in Ward No.09 in Vidyananyapura Sub Division, BBMP, Bangalore.
REFERENCE	AEE/BBMP/VSD/PR/275/2016-17 Dated: 13.06.2016
SAMPLE I/D	Roads in Canara Bank Layout in Ward No.09
DATE OF TESTING	22.07.2016



GRADATION AFTER EXTRACTION

Sieve Size in mm	Trail 1				Specified Limits as per MORTH specification table 500-18 (Grading-2)
	Weight Retained, gm	% Retained	%Cummulative Retained	% Passing	
19	0	0	0	100	100
13.2	43.36	9.15	9.15	90.85	79-100
9.5	36.36	7.67	16.82	83.18	70-88
4.75	68.25	14.40	31.22	68.78	53-71
2.36	62.35	13.15	44.37	55.63	42-58
1.18	53.15	11.21	55.58	44.42	34-48
0.6	62.32	13.15	68.73	31.27	26-38
0.3	36.32	7.66	76.39	23.61	18-28
0.15	36.33	7.66	84.06	15.94	12-20
0.075	41.22	8.70	92.76	7.24	4-10

Sieve Size in mm	Trail 2				Specified Limits as per MORTH specification table 500-18 (Grading-2)
	Weight Retained, gm	% Retained	%Cummulative Retained	% Passing	
19	0	0	0	100	100
13.2	42.32	8.94	8.94	91.06	79-100
9.5	39.63	8.37	17.31	82.69	70-88
4.75	72.25	15.26	32.57	67.43	53-71
2.36	61.23	12.93	45.50	54.50	42-58
1.18	70.22	14.83	60.33	39.67	34-48
0.6	45.23	9.55	69.88	30.12	26-38
0.3	36.33	7.67	77.55	22.45	18-28
0.15	41.22	8.71	86.26	13.74	12-20
0.075	36.36	7.68	93.94	6.06	4-10

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Job No.: CTCE/BBMP/W.No.09/BBU/SDBC/Bit/2016-17

20.07.2016

BITUMEN CONTENT DETERMINATION OF SEMI DENSE BITUMINOUS CONCRETE MIX

AS per IRC:SP:-1984

CUSTOMER	Asst. Executive Engineer, Vidyaranyapura Sub Division, BBMP, Bangalore.
AGENCY	Mr. B. B. Umesh, #385/1, Near Anjaneya Temple, Bettahalasur Village & Post, Bangalore – 57.
NAME OF THE WORK	Improvements and Asphaltting to roads at Canara Bank Layout in Ward No.09 in Vidyaranyapura Sub Division, BBMP, Bangalore.
REFERENCE	AEE/BBMP/VSD/PR/275/2016-17 Dated: 13.06.2016
SAMPLE I/D	Roads in Canara Bank Layout in Ward No.09
DATE OF TESTING	20.07.2016



BITUMEN CONTENT DETERMINATION

Description	Trail 1	Trail 2
1. Weight of Mixture before Test, g	500	500
2. Weight of Mixture after Test, g	475	474
3. Weight of Asphalt and Mineral matter Extracted, g	-	-
4. Weight of Mineral Matter, g.	-	-
5. Weight of Ash, g		
6. Weight of Bitumen Extracted, g. (corrected)	25	26.00
7. Bitumen content in %	5.00	5.20
8. Average	5.10	



Note:

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20.07.2016

BITUMEN CONTENT GRADATION DETERMINATION OF SEMI DENSE BITUMINOUS CONCRETE MIX

As per IS2386 and IRC:SP:11-1984

CUSTOMER	Asst. Executive Engineer, Vidyananyapura Sub Division, BBMP, Bangalore.
AGENCY	Mr. B. B. Umesh, #385/1, Near Anjaneya Temple, Bettahalasur Village & Post, Bangalore – 57.
NAME OF THE WORK	Improvements and Asphalting to roads at Canara Bank Layout in Ward No.09 in Vidyananyapura Sub Division, BBMP, Bangalore.
REFERENCE	AEE/BBMP/VSD/PR/275/2016-17 Dated: 13.06.2016
SAMPLE I/D	Roads in Canara Bank Layout in Ward No.09
DATE OF TESTING	20.07.2016



GRADATION AFTER EXTRACTION

Sieve Size in mm	Trail 1				Specified Limits as per MORTH specification table 500-15 (Grading-2)
	Weight Retained, gm	% Retained	%Cummulative Retained	% Passing	
13.2	0	0	0	100	100
9.5	36.36	7.65	7.65	92.35	90-100
4.75	258.6	54.44	62.10	37.90	35-51
2.36	53.16	11.19	73.29	26.71	24-39
1.18	38.36	7.65	80.94	19.06	15-30
0.3	35.24	7.42	88.36	11.64	9-19
0.075	32.25	6.79	95.15	4.85	3-8

Sieve Size in mm	Trail 2				Specified Limits as per MORTH specification table 500-15 (Grading-2)
	Weight Retained, gm	% Retained	%Cummulative Retained	% Passing	
13.2	0	0	0	100	100
9.5	33.25	7.01	7.01	92.99	90-100
4.75	260.5	54.96	61.97	38.03	35-51
2.36	32.25	6.80	68.78	31.22	24-39
1.18	34.15	7.20	75.98	24.02	15-30
0.3	35.15	7.42	83.40	16.60	9-19
0.075	48.25	10.18	93.58	6.42	3-8

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